



Performance with a Peace of Mind



User's Manual

Prudent Way Superior Plus Series Power Supply
PWI-SP650P, PWI-SP850P & PWI-SP1000P

Prudent Way Superior Plus Series Power Supply User's Manual
ATX 12V version 2.92
Models: PWI-SP650P (version 2.2), PWI-SP850P & PWI-SP1000P

Table of Contents

1. Introduction	2
2. Safety & Warning	2
3. Installation.....	2
4. Product Specification.....	4
5. Simple Trouble Shooting.....	5

Prudent Way Superior Plus Series Power Supply User's Manual
ATX 12V version 2.92
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Thank you for choosing Prudent Way Superior Plus Series Power Supply. Please take time to read the following manual before installing the power supply. Please note that failure to follow the proper procedures may cause severe harm to your body and PC components.

We sincerely wish you find this quality power supply provide you with many years of good service.

1. Introduction

The Prudent Way Superior Plus Series power supply satisfies the latest ATX12V version 2.92 requirements (2.2 version for PWI-SP650P) and good for high-end system operations; especially with mini servers, workstations, and high-end graphic card systems. The 14 cm fan design enlarges the cooling surface to enable high airflow output for the best cooling effect. All Superior Plus Series power supplies adapt the active PFC technology which helps to save 40% of power usage. Furthermore, our super silent technology and noiseless fan design bring silence to the computer system. Superior Plus Series power supply carries industrial-grade full protections (over voltage, over current, over loading and output short circuit) and is RoHS compliant.

2. Safety & Warning

Please read the following information carefully before using the power supply.

- ✖ DO NOT take apart, add to, or remove any components from the power supply. There are Hazardous Voltages inside the power supply. Warranty will be voided by doing so.
- ✖ DO NOT expose power supply and computer to water, moist, dusty or extreme temperature environment.
- ✖ DO NOT use wet hands to plug or unplug the power cord.
- ✓ DO grab the plug instead of cord when you remove the power cord from the wall outlet.
- ✓ DO switch off and unplug any power sources and use dry cloth only before attempting any cleaning to avoid electrical shock.

3. Installation


- Step 1. Read Safety and Warning information above.
- Step 2. Disconnect the power cord from the old power supply.
- Step 3. Open your computer case by following your computer case manual.
- Step 4. Disconnect all of the power connectors from the motherboard and from the peripheral devices such as hard drive, optical drives, floppy drives, case fans, etc.
- Step 5. Remove the existing power supply from your computer case and replace it with your new Superior Plus Series power supply.
- Step 6. Assemble the power supply and screw it in your PC correct power supply position.

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ATX 12V version 2.92

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- Step 7. Connect the 24-pin main power connector (Table 1). If your motherboard uses a 20-pin connector, detach the 4-pin attachment on the 24-pin power connector.
- Step 8. Connect all other connectors to drives and peripheral correctly (Table 1).
 Please make sure the PCI-Express cable is plug into the PCI-Express graphic card property. Otherwise, the graphic card is easily damaged.
- Step 9. Make sure all of connectors are connected correctly.
- Step 10. Screw and close the side panel of your PC case.
- Step 11. Plug in the power cord to the power supply. Switch on/off (I/O) button to "I", and the system is ready to go.



Table 1

Connector	Image	Number of Pins	Qty	Function
Main Connector		20+4	1	Provide CPU, motherboard, memory, PCI, AGP, USB hub with power.
ATX 12 V Power Connector		4	1	For processor
ATX 12 V 2.92 Power Connector		8	1	For processor
Peripheral Power Connector		4	PWI-SP650P: 5 PWI-SP850P: 8 PWI-SP1000P: 8	For, hard drive, IDE type optical drive and other peripherals
PCI Express Connector		6+2	PWI-SP650P: 2 PWI-SP850P: 4 PWI-SP1000P: 4	For PCI Express Card

Prudent Way Superior Plus Series Power Supply User's Manual

ATX 12V version 2.92

Models: PWI-SP650P (version 2.2), PWI-SP850P & PWI-SP1000P

SATA Connector		5	8	For serial ATA type HDD and other peripherals
Floppy Drive Connector		4	1	For floppy drive

4. Product Specification

Features	PWI-SP650P	PWI-SP850P	PWI-SP1000P
Type	ATX12V V. 2.2 (4 X 12V)	ATX 12V V 2.92	
Switches	No switch (115V)		
Maximum Power	650W	850W	1000W
Transient Response	+5V,+12V and 3.3V outputs return to within 3% in less than 1ms for 25% load change		
Power Good Signal	100 - 500 ms		
Over Voltage Protection Recycle AC to reset	+12V1/+12V2=13.4V-15.6V, +5V=5.7V-7.0V,+3.3V=3.7V-4.3V		
Energy Efficient 80 Plus Certified	Yes at full load	Yes	Yes
Special Connectors	1 Main Connector (20+4 pin)		
	1 12V (P4) 4 Pin, 1 12V V2.92 EPS 8 Pin		
	5 Peripheral	8 Peripheral	
	8 SATA	8 SATA	8 SATA
	1 Floppy	1 Floppy	1 Floppy
PCIE 6+2	2 PCI-E (6+2Pin)12V	4 PCI-E (6+2Pin)12V	4 PCI-E (6+2Pin)12V
PCIE 6Pin	Nil	Nil	Nil
+12V Rails	4	4	4
nVIDIA SLI Support	nVIDIA SLi	Quad nVIDIA SLi	Quad nVIDIA SLi
ATI Cross Fire	Yes	Yes	Yes
Fans	14cm ceramic bearing(850w/1000w) heat-noise resistant fan with smart temperature and fan speed control		
Cables	Black Sleeved Cables		
DIMENSIONS			
Unit Size	6.2" (W) x 5.9" (D) x 3.4" (H)	7.1" (W) x 5.9" (D) x 3.4" (H)	
Net Weight	4.6lb	5.25lb	5.75lb

OUTPUT (650W)								
Output Voltage	+3.3V	+5V	+12V1	+12V2	+12V3	+12V4	-12V	+5VSB
Max. Load	24A	30A	28A	28A	28A	28A	0.5A	3A
Min. Load	0.5A	0.5A	1A	1A	1A	1A	0	0.1A
Regulation	+5/-5%	+5/-5%	+5/-5%	+5/-5%	+5/-5%	+5/-5%	+10/-10%	+5/-5%
Ripple & Noise (mV)	70	70	120	120	120	120	120	70
Available Power	629W					21 W		
Total Power	650W continuous maximum at full load							

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ATX 12V version 2.92

Models: PWI-SP650P (version 2.2), PWI-SP850P & PWI-SP1000P

Models: P-W-BF-650P (Version 2.2), P-W-BF-650P & P-W-BF-1000P								
OUTPUT (850W)								
Output Voltage	+3.3V	+5V	+12V1	+12V2	+12V3	+12V4	-12V	+5VSB
Max. Load	24A	30A	34A	34A	34A	34A	0.5A	3A
Min. Load	1.0A	1.0A	0.8A	0.8A	0.5A	1.0A	0A	0.1A
Regulation	+5/-5%	+5/-5%	+5/-5%	+5/-5%	+5/-5%	+5/-5%	±10%	+5/-5%
Ripple & Noise (mV)	50	50	120	120	120	120	120	50
Available Power	829W						31W	
Total Power	850W							
OUTPUT (1000W)								
Output Voltage	+3.3V	+5V	+12V1	+12V2	+12V3	+12V4	-12V	+5VSB
Max. Load	24A	30A	36A	36A	36A	36A	0.5A	3A
Min. Load	1.0A	1.0A	0.8A	0.8A	0.5A	1.0A	0A	0.1A
Regulation	+5/-5%	+5/-5%	+5/-5%	+5/-5%	+5/-5%	+5/-5%	±10%	+5/-5%
Ripple & Noise (mV)	50	50	120	120	120	120	120	50
Available Power	929W						21W	
Total Power	1000W							
INPUT								
Input Voltage	115/230V							
Input Frequency Range	50-60 Hz							
Input Current	Maximum current at 115~230V AC (RMS) : 14A-5A							
Hold-up Time	17ms max.							
Efficiency	> 80% -650Watt			>82% - 850Watt			>82%- 1000Watt	
EMI/RFI	FCC Class B							
ENVIRONMENTAL								
Operating Temp.	0 to 40°C							
Operating Alt.	10,000ft							
MTBF	> 100,000 Hours							
Safety Approval	UL, TÜV, CB, EMI certification, FCC, CE, C-Tick and BSMI							
RoHS Compliant	Yes			Yes			Yes	
PFC	Active PFC (Energy Saving 40%)							

5. Simple Trouble Shooting

Condition: No Power

1. Check if the power cord is plugged into electrical outlet and power switch is at "I" position.
2. Make sure all the drives and peripheral devices have its power connector attached properly.
3. If the power supply is installed into a PC case, make sure the connection of the front panel power switch to motherboard is correct.
4. Turn power off, wait for few minutes and turn it back on.
5. If the power supply still has no power, remove all connectors to devices and test the power supply by using a tester. This test is to help rule out hard ware problems. If the fan spins, the power supply is likely to be in good working condition. Please check if the power supply is compatible with other hard ware in your PC.
6. If the power supply still can not power up after following above instructions, please send the unit back to your dealer or retailer for after sales services.

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ATX 12V version 2.92

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